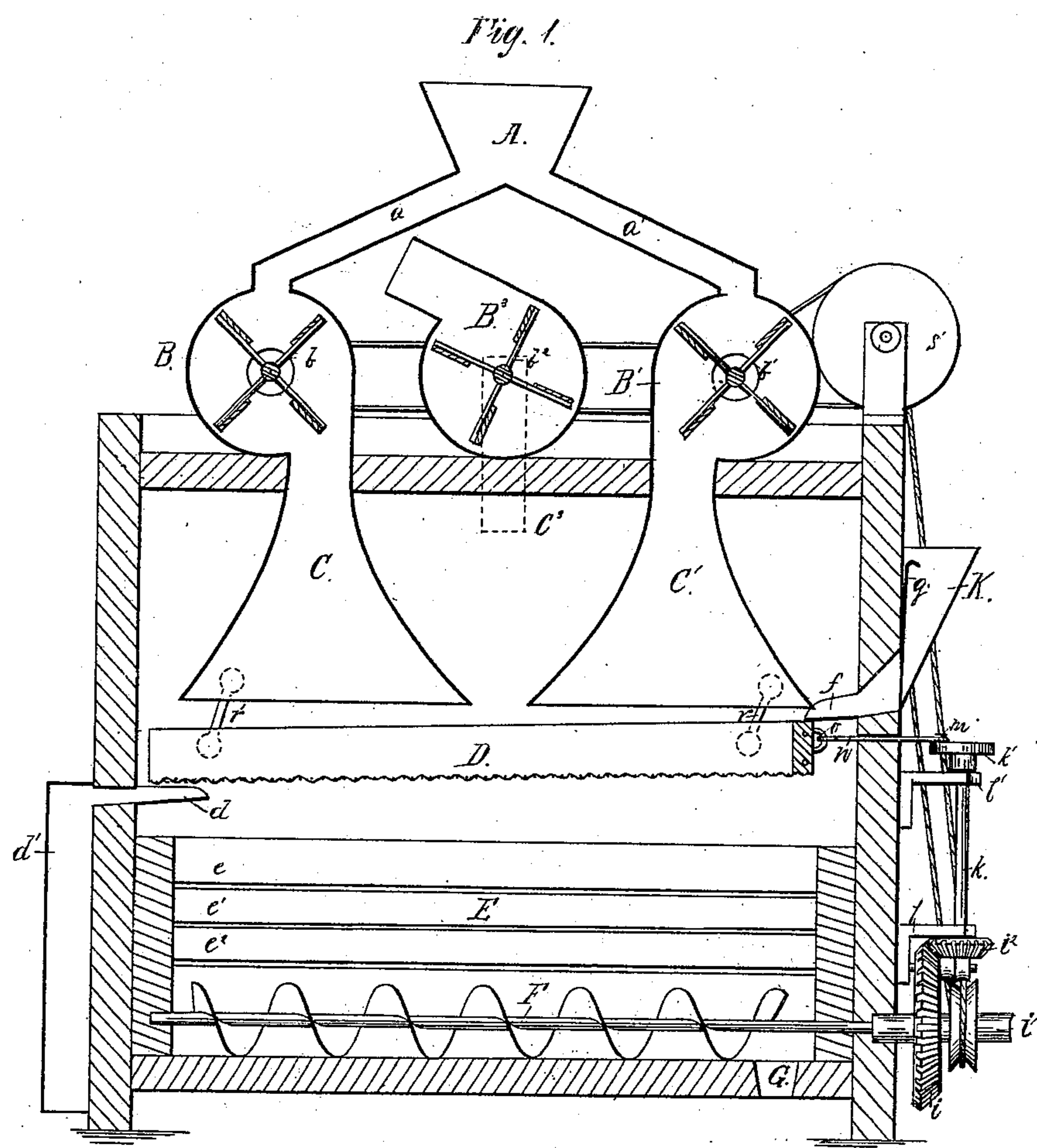


J. A. MALONEY & D. L. SHOEMAKER.
Machine for Cleaning Grain.

No. 209,177.

Patented Oct. 22, 1878.



WITNESSES

Geo M. C. Pritchard
H. C. Harper

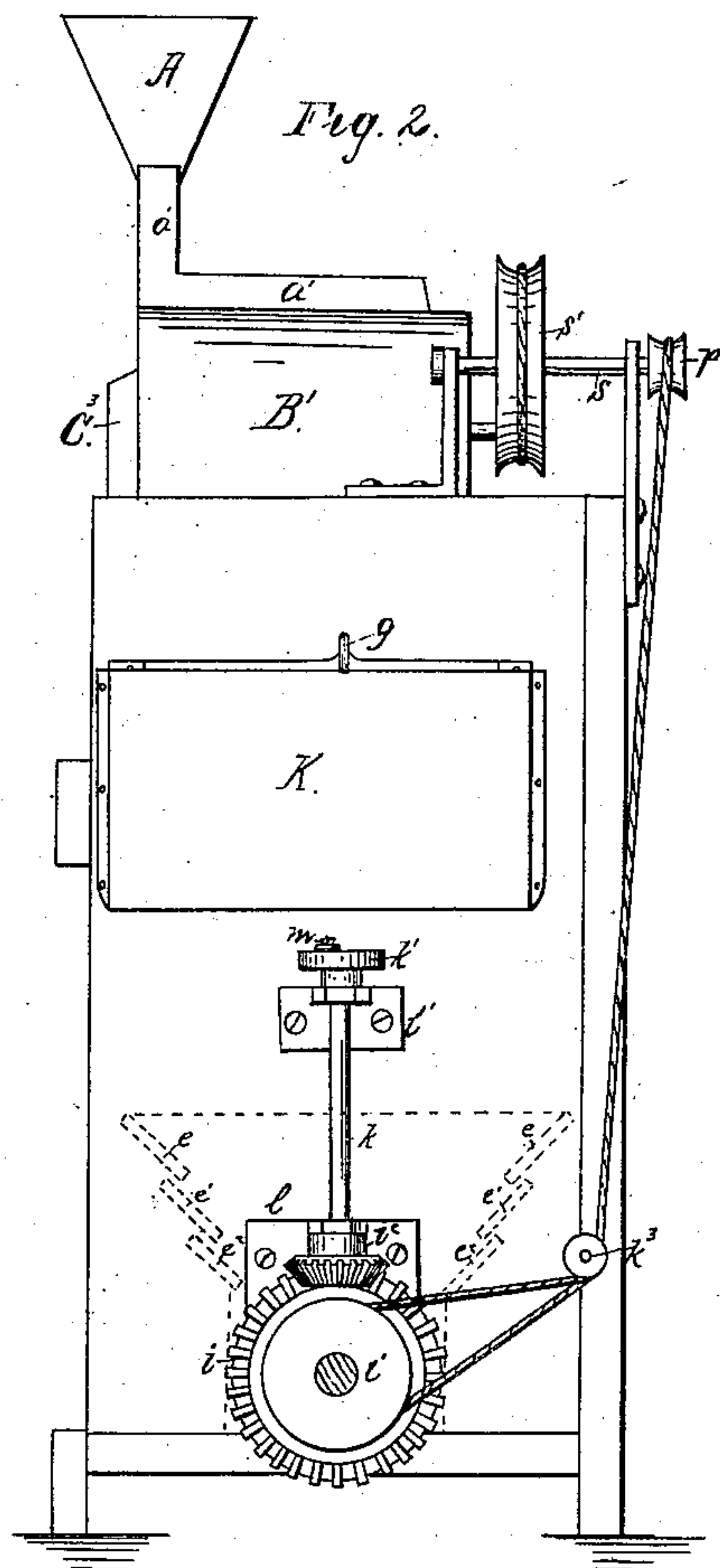
INVENTORS

James A. Maloney
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UNITED STATES PATENT OFFICE.

JAMES A. MALONEY AND DAVID L. SHOEMAKER, OF GEORGETOWN, D. C.,
ASSIGNORS TO THEMSELVES AND JOHN L. KIDWELL.

IMPROVEMENT IN MACHINES FOR CLEANING GRAIN.

Specification forming part of Letters Patent No. **209,177**, dated October 22, 1878; application filed
October 9, 1878.

To all whom it may concern:

Be it known that we, JAMES A. MALONEY and DAVID L. SHOEMAKER, of Georgetown, in the District of Columbia, have invented certain new and useful Improvements in Machines for Cleaning Grain; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in machines for cleaning grain, in which the grain is subjected to the scouring action of sand forced against the grain.

In the drawings, Figure 1 is a vertical section of the machine. Fig. 2 is an end view of the same.

A represents a hopper for the reception of sand. B B¹ are pressure or blower fans. B³ represents an exhaust or suction fan. C C¹ are inverted hoppers for conducting to and spreading sand over the grain. C³ represents air-ducts from the interior of the machine to the eyes of the exhaust-fan; D, a reciprocating screen; E, an inclined overlapping hopper beneath the screen D. F is a conveyer; G, an opening from the conveyer-chest for the egress of sand. K is a hopper for receiving grain. *a a'* are sand-spouts. *b b¹ b²* are fan-blades; *d d'*, outlet-apron and hopper for grain. *e e¹ e²* are openings in hopper E. *g* represents a slide or gate in grain-hopper K, to regulate the flow of grain over the surface of the screen its entire width. *h* is a rod, connecting the end of screen with an eccentric to produce a reciprocating motion; *i i¹ i²*, gears for imparting motion to the machine; *k*, eccentric-shaft; *r r'*, movable hangers for holding the screen in position.

The operation of the machine is as follows: The grain or other material to be cleaned is conveyed to a hopper, K, and is fed to the screen by means of a sliding gate, *g*. After reaching the surface of the screen the grain is met by a current of air and sand forced from the hoppers C C¹, and then empties itself into the hopper *d'*, to be conveyed away into any

suitable receptacle. The sand, after acting upon the grain, passes through the meshes of the screen, and is carried by the cant-boards forming the hopper E to the conveyer F, and then passed out of the opening G, to be conveyed back to the fans, if desired, by any suitable means. Any light dust or dirt will be carried off and away from the machine by the exhaust-fan B³.

It will be seen that by means of this mechanism every grain and every portion of a grain is presented to the action of the sand, as the grain, in passing over the surface of the screen, is constantly changing position, owing to the motion imparted to the screen. By this means we are enabled to present more grain to the sand and air for cleaning, and also make a complete separation of the sand from the grain at the same time.

What we claim as new, and desire to secure by Letters Patent, is—

1. In a machine for cleaning grain, the combination of a horizontal reciprocating screen, over which the grain is passed, with one or more pressure or blower fans and conduits for forcing sand over the surface of said screen and in a direction transverse to that of the grain to be cleaned, substantially as and for the purpose set forth.

2. In a machine for cleaning grain, the combination of a horizontal reciprocating screen, over which the grain is passed, with one or more pressure or blower fans and conduits for forcing sand over the surface of said screen and in a direction transverse to that of the grain to be cleaned, and openings for the ingress and egress of the grain, substantially as and for the purpose set forth.

3. In a machine for cleaning grain, (the combination of a horizontal reciprocating screen, over which the grain is passed, with one or more pressure or blower fans and conduits for forcing sand over the surface of said screen and in a direction transverse to that of the grain to be cleaned, and openings for the ingress and egress of grain, and a suction or exhaust fan, substantially as and for the purpose set forth.

4. In a machine for cleaning grain, (the combination of a horizontal reciprocating screen,

over which the grain is passed, with one or more pressure or blower fans and conduits for forcing sand over the surface of said screen and in a direction transverse to that of the grain to be cleaned, openings for the ingress and egress of grain, suction or exhaust fan, and inverted hoppers above said screen, substantially as and for the purpose set forth.

5. In a machine for cleaning grain, the combination of a horizontal reciprocating screen, over which the grain is passed, with one or more pressure or blower fans and conduits for forcing sand over the surface of said screen and in a direction transverse to that of the grain

to be cleaned, openings for the ingress and egress of grain, suction or exhaust fan, inverted hoppers above said screen, and a conveyor, all substantially as and for the purpose set forth.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

J. A. MALONEY,
D. L. SHOEMAKER.

Witnesses:

ED. SHOEMAKER,
C. W. SHOEMAKER.